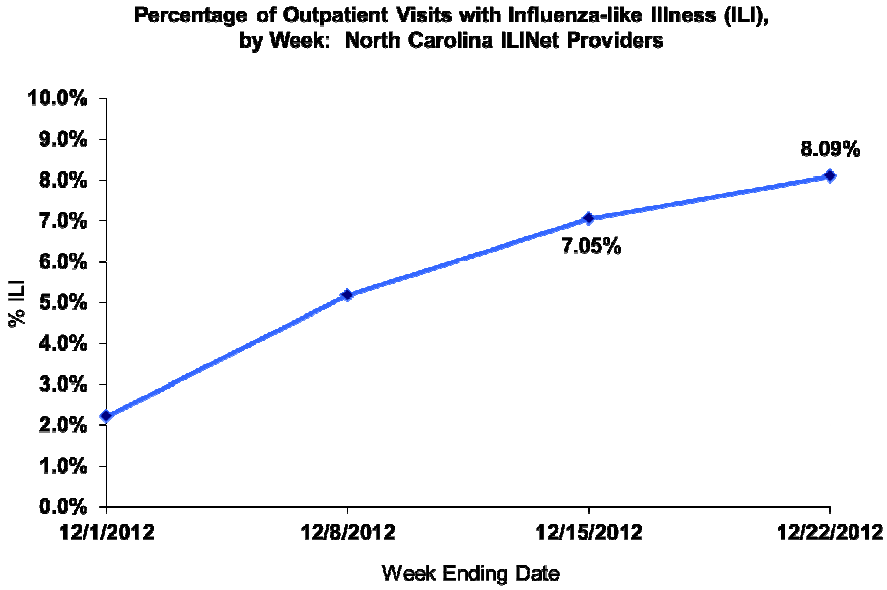
NORTH CAROLINA WEEKLY INFLUENZA SURVEILLANCE SUMMARY #12
2012–13 INFLUENZA SEASON
WEEK 51: ENDING DECEMBER 22, 2012

Statewide Updates

- Influenza-like illness reported from ILINet providers continued to increase, although the number of reporting providers was low due to the holiday. Influenza-like illness in emergency departments decreased slightly (page 7).
- Two flu-associated deaths occurring during week 50 (ending 12/15/12) have been reported since the last update.
- The geographic spread of flu was WIDESPREAD for week ending 12/22/12.



- Of the 50 samples submitted to the State Laboratory of Public Health (SLPH) for viral testing during the past week, 33 tested positive for influenza. One tested positive for influenza B and the remaining 32 for influenza A/H3.
- Hospital-based Public Health Epidemiologists (PHEs) reported 346 positive influenza results for week ending 12/22/12: 272 influenza A (not subtyped), 68 influenza A/H3 and 6 influenza B.

Regional Updates

- The proportion of visits due to ILI in region 4 (Southeastern US) was 4.8% during the week ending 12/15/12. The baseline for the region is 2.3%. Nine of ten regions were above baseline for ILI.

National Updates

- The proportion of outpatient visits due to ILI nationally was 3.2% during week 50 (ending 12/15/12), which is above the baseline of 2.2%.

International Updates - From WHO Influenza Update – December 21, 2012:

Many countries in the temperate regions of the northern hemisphere are now reporting elevated detections of influenza. Influenza activity was still low in Europe, with co-circulating of both influenza A and B viruses. However increased influenza-like illnesses were reported in more countries than previous weeks. There was low, but increasing influenza activity in northern Africa and the Eastern Mediterranean regions, and sporadic detections in eastern Asia. Influenza activity in the temperate countries of the southern hemisphere continued at inter-seasonal levels.

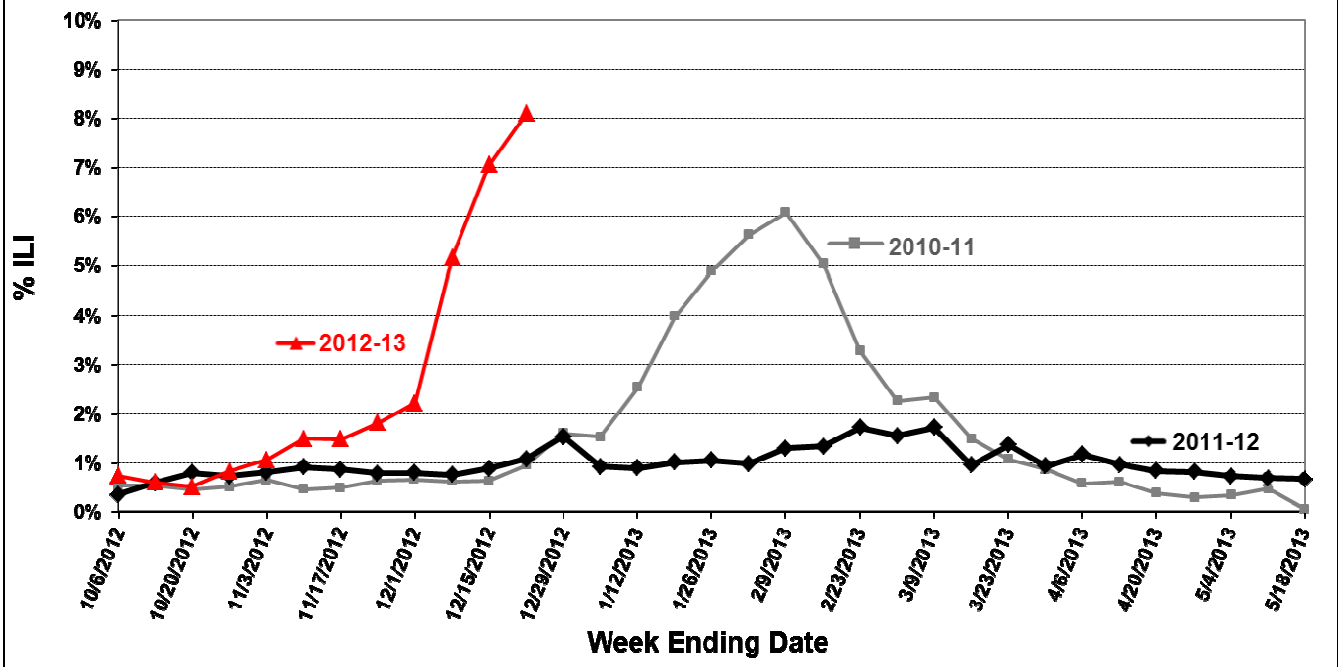
Flu Information and Guidance	
North Carolina	CDC
www.flu.nc.gov	http://www.cdc.gov/flu

INFLUENZA-LIKE ILLNESSES REPORTED BY SENTINEL SITES, 2012-13

Week # - Ending	(Sentinels Reporting)	# ILI	# Patients	% ILI
#40 - 10/06/12 [2012-2013]	(61)	150	20,473	0.73%
#41 - 10/13/12	(60)	120	19,914	0.60%
#42 - 10/20/12	(62)	154	30,158	0.51%
#43 - 10/27/12	(63)	181	21,921	0.82%
#44 - 11/03/12	(61)	210	19,724	1.06%
#45 - 11/10/12	(62)	317	21,175	1.49%
#46 - 11/17/12	(61)	293	19,678	1.48%
#47 - 11/24/12	(60)	242	13,302	1.81%
#48 - 12/01/12	(55)	446	20,142	2.21%
#49 - 12/08/12	(60)	1,191	23,016	5.17%
#50 - 12/15/12	(51)	1,175	16,659	7.05%
#51 - 12/22/12	(20)	346	4,274	8.09%

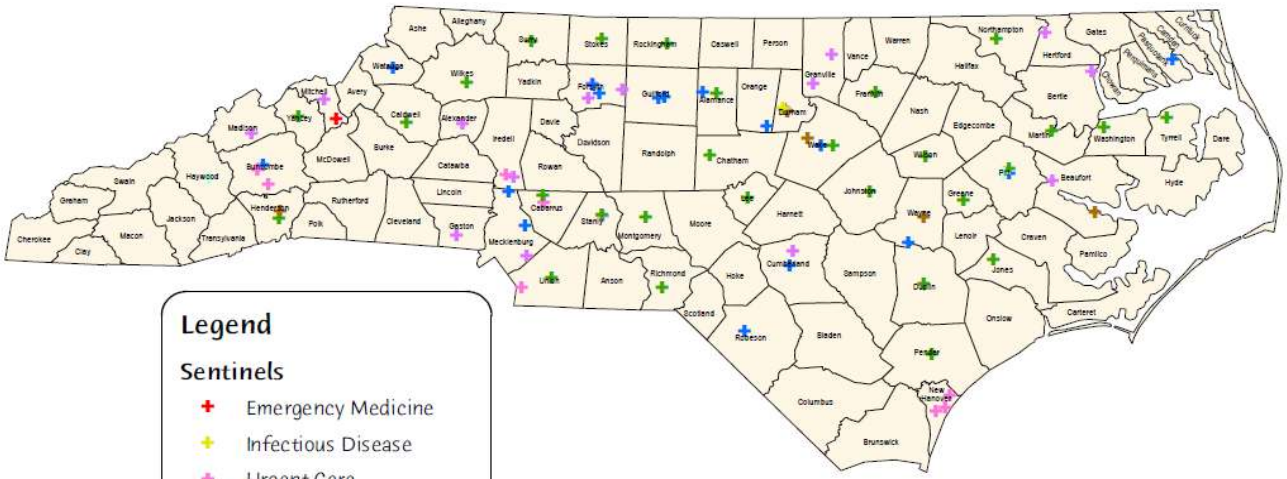
INFLUENZA SURVEILLANCE, NC 2012-2013

Influenza-Like Illness in ILINet Outpatient Visits, by Influenza Season



Note: Week ending displayed is for 2011–2012 influenza season. Flu seasons for previous years may have different week ending dates, but these only vary by a few days.

North Carolina ILINetwork Provider Locations 2012-2013



Legend

Sentinels

- Emergency Medicine
- Infectious Disease
- Urgent Care
- Local Health Department
- Student Health
- Family Practice
- Pediatrician
- Other

schs State Center for Health Statistics

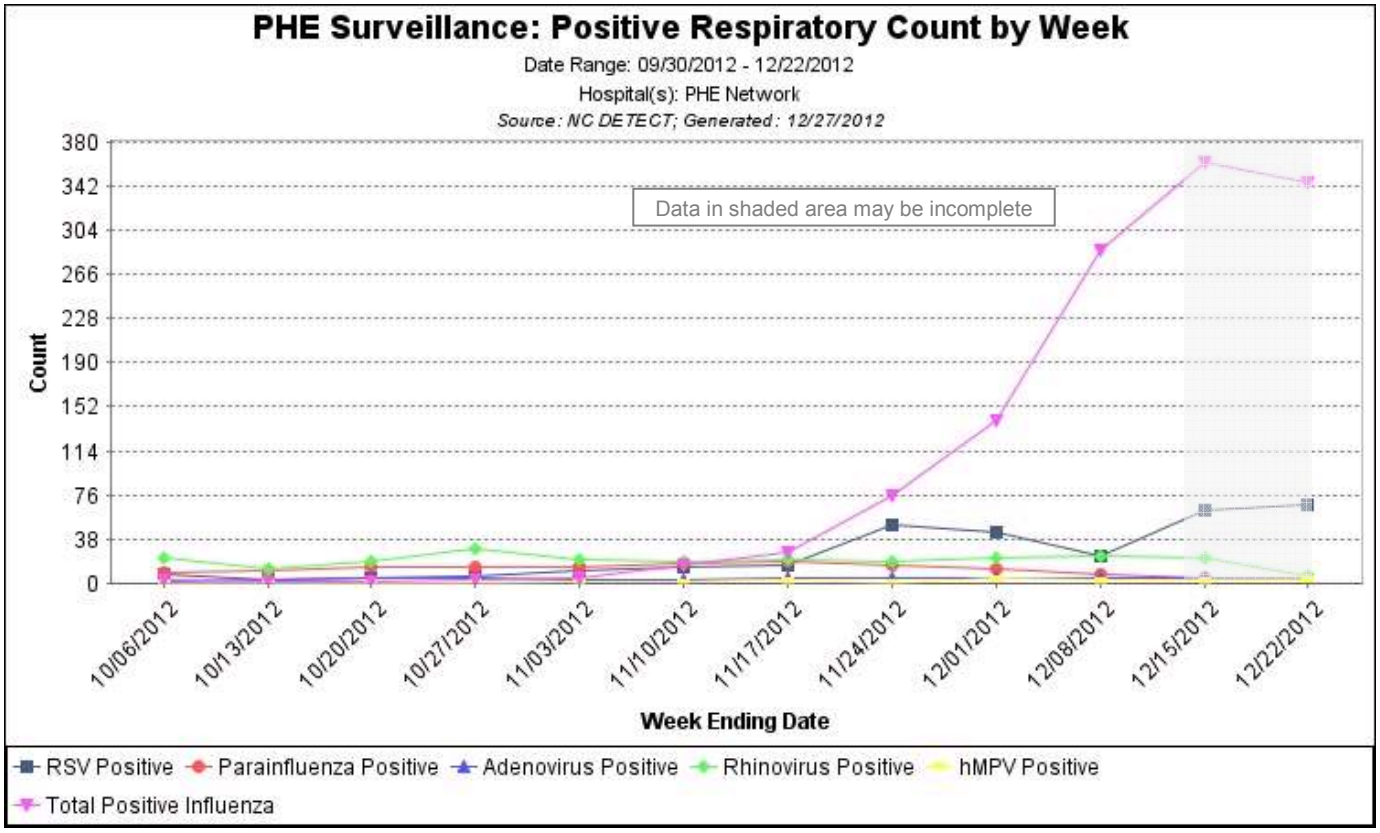
Locations are mapped to the county – not the exact physical address.

NCPH North Carolina Public Health

PHE Respiratory Viral Pathogen Surveillance

Positive test results for selected respiratory viruses are reported on a weekly basis by Public Health Epidemiologists (PHEs) located in ten of the largest hospital networks across North Carolina. The graph below shows the number of positive tests for respiratory syncytial virus (RSV), parainfluenza, adenovirus, rhinovirus, and human metapneumovirus (hMPV) by week beginning with the week ending 10/8/2011.

These data provide a useful indication of which other respiratory viruses are circulating and possibly contributing to ILI in the state. Please note that the total number of tests performed is not available from all hospital networks, so the overall proportion testing positive cannot be calculated. Also, testing protocols and practices differ among the hospitals. Finally, these numbers reflect test results from participating hospitals only and might not be reflective of the entire state.



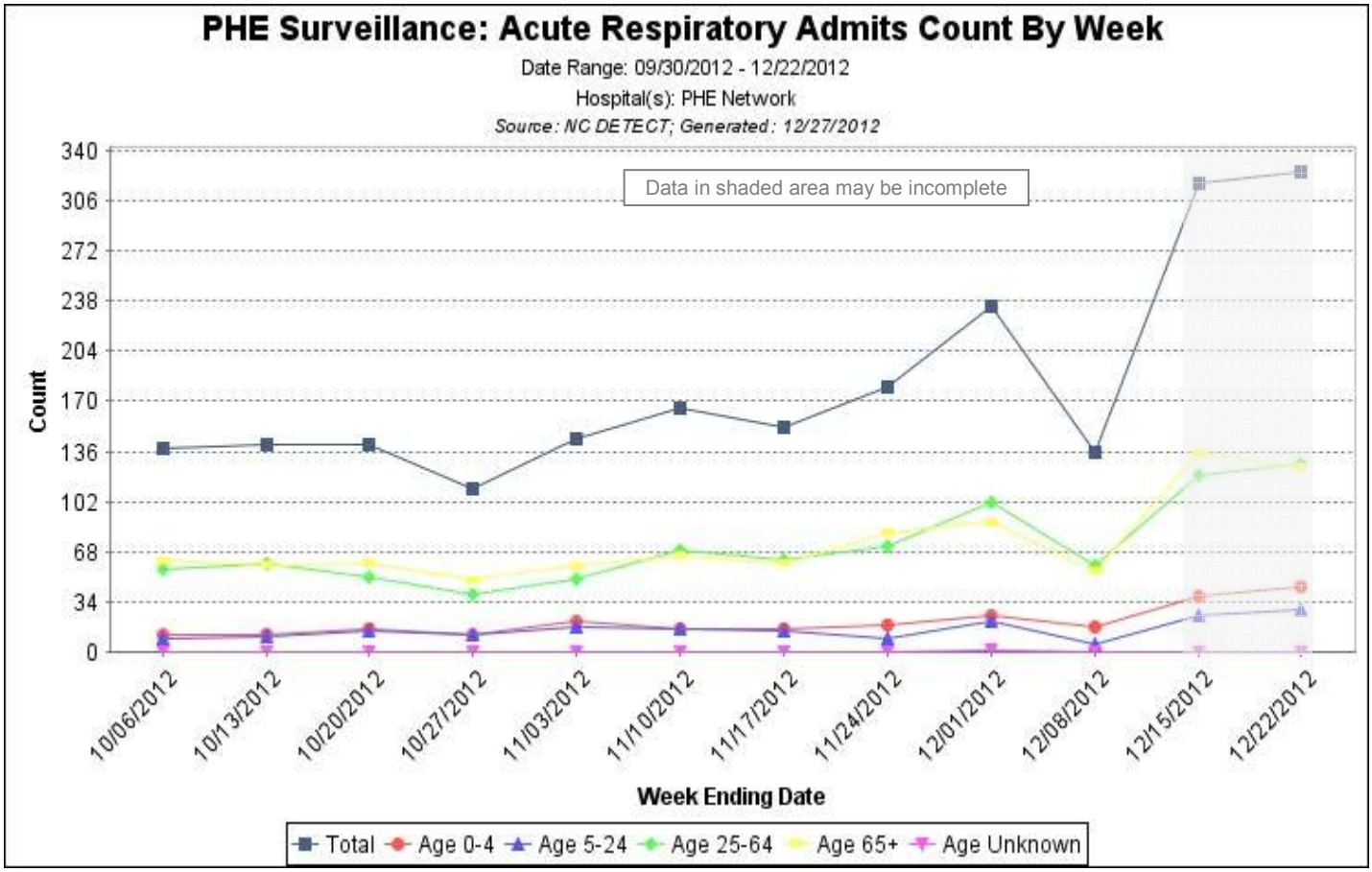
- PHEs reported 346 positive influenza results for week 51 (ending 12/22/12): 272 influenza A (not subtyped); 68 influenza A/H3; and 6 influenza B. Positive results were obtained by rapid influenza diagnostic testing and PCR.

- Influenza was the most frequently identified respiratory viral pathogen during week 51 (ending 12/22/12). Respiratory syncytial virus (RSV) was the second most frequently identified pathogen.

PHE Acute Respiratory Admissions Surveillance

The number of patients admitted to the hospital with fever plus respiratory symptoms in the absence of a known cause other than influenza is reported on a weekly basis by Public Health Epidemiologists (PHEs) located in ten of the largest hospital networks across North Carolina. The graph below shows the number of acute respiratory illness admissions to participating hospitals by age group.

In conjunction with other surveillance information, these data help us monitor for changes in severity of illness during periods when influenza is circulating. Please note that these reports are not limited to patients with laboratory-confirmed influenza infection. Also, these numbers reflect admissions to participating hospitals only and might not be reflective of the entire state.



- Hospital admissions for acute respiratory illness increased slightly during week 51 (ending 12/22/12).
- The highest number of acute respiratory admissions during week 50 was among adults ≥25 years of age.

Virologic Surveillance Information from the North Carolina State Laboratory of Public Health

INFLUENZA VIRUS ISOLATES FROM IN-STATE PATIENTS IDENTIFIED BY THE STATE LABORATORY OF PUBLIC HEALTH: 2012–2013 SEASON*

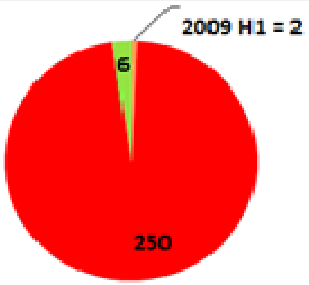
Virus Type	# New Positive Results (12/16/12–12/22/12)	# Cumulative Positive Results (09/30/12-12/22/12)
A (not subtyped)	0	0
2009 A(H1N1)	0	2
A/H3	32	250
A/H3N2v	0	0
B	1	6
Total	33	258

* 2012-2013 influenza season began September 30, 2012.

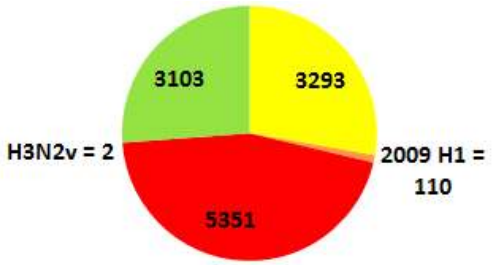
NOTE: This table only includes isolates tested as of 12/21/12.

This table does not include influenza isolates identified by other laboratories.

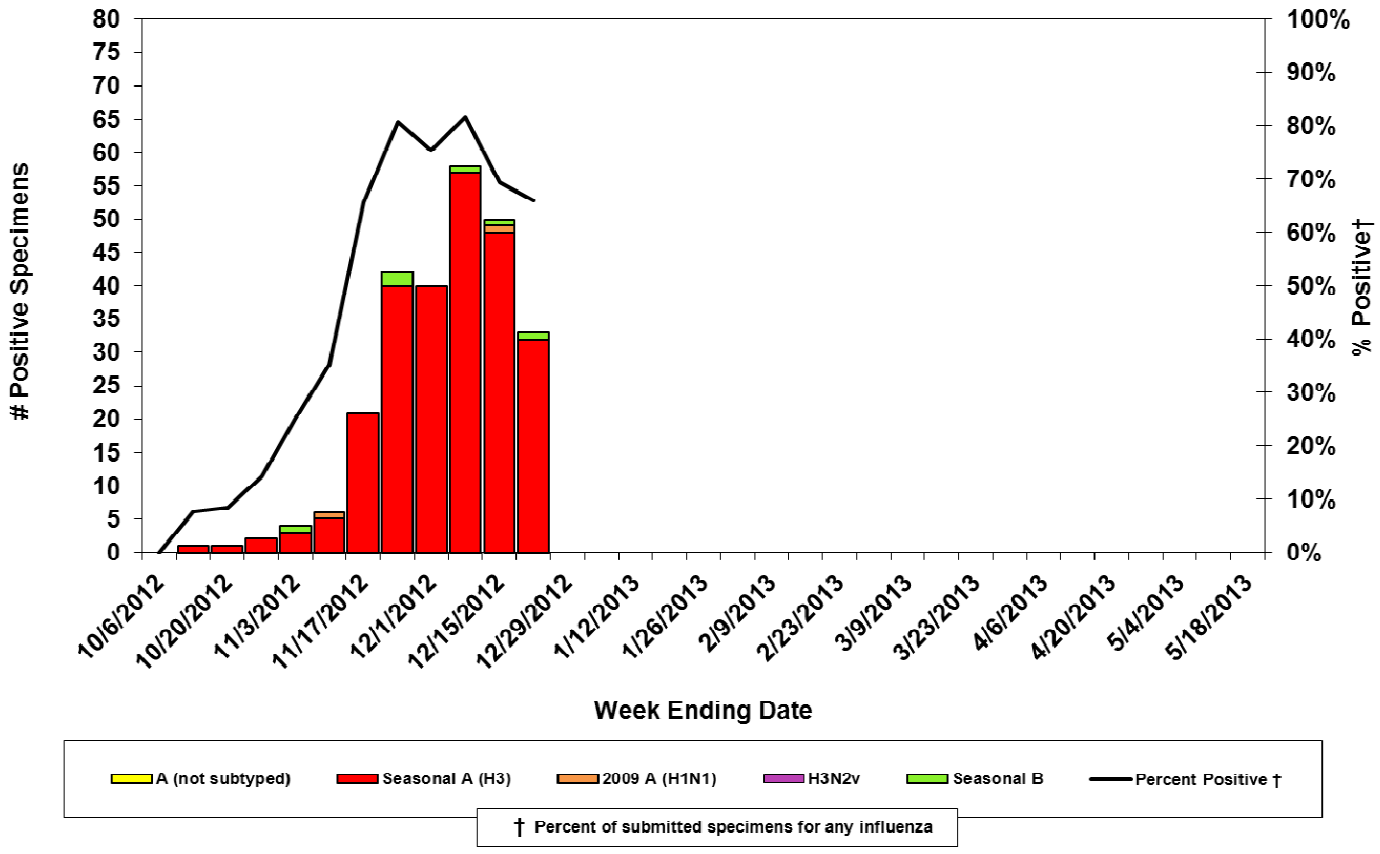
NORTH CAROLINA: # of positive isolates 09/30/12–12/22/12



UNITED STATES: # of positive isolates 9/30/12–12/15/12



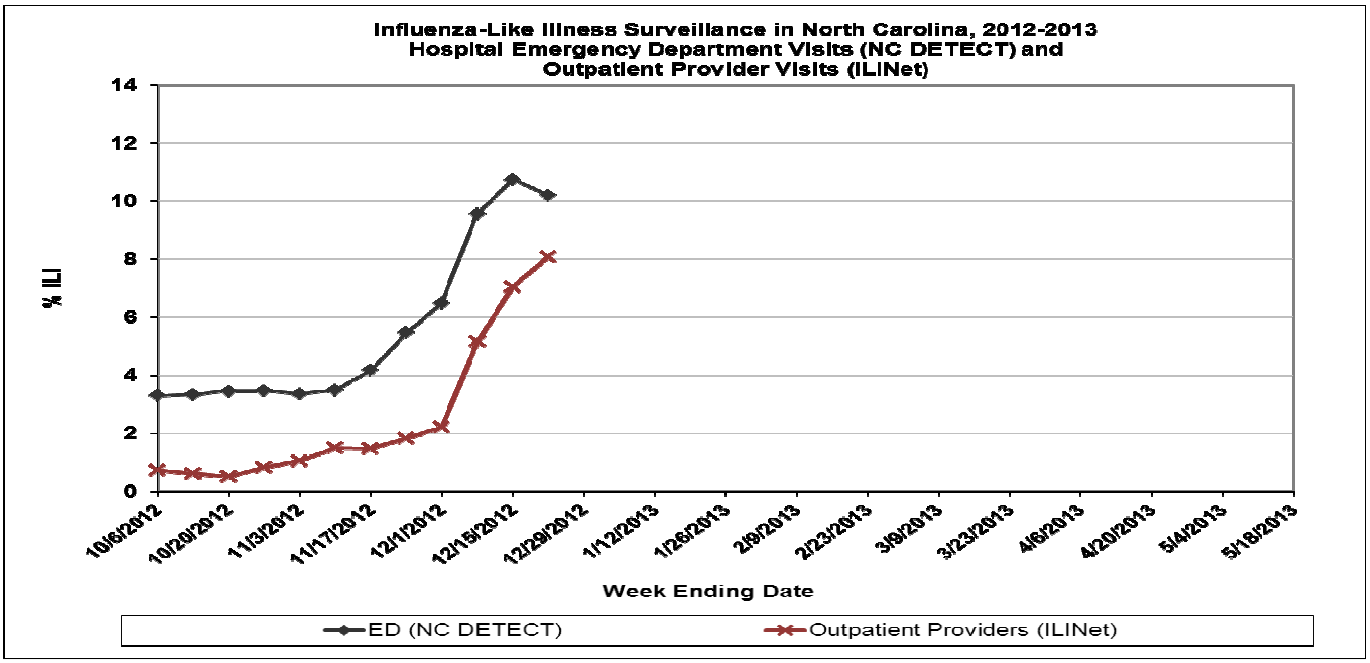
Influenza Positive Tests Reported by the N.C. State Laboratory of Public Health (SLPH) by Week Ending Date



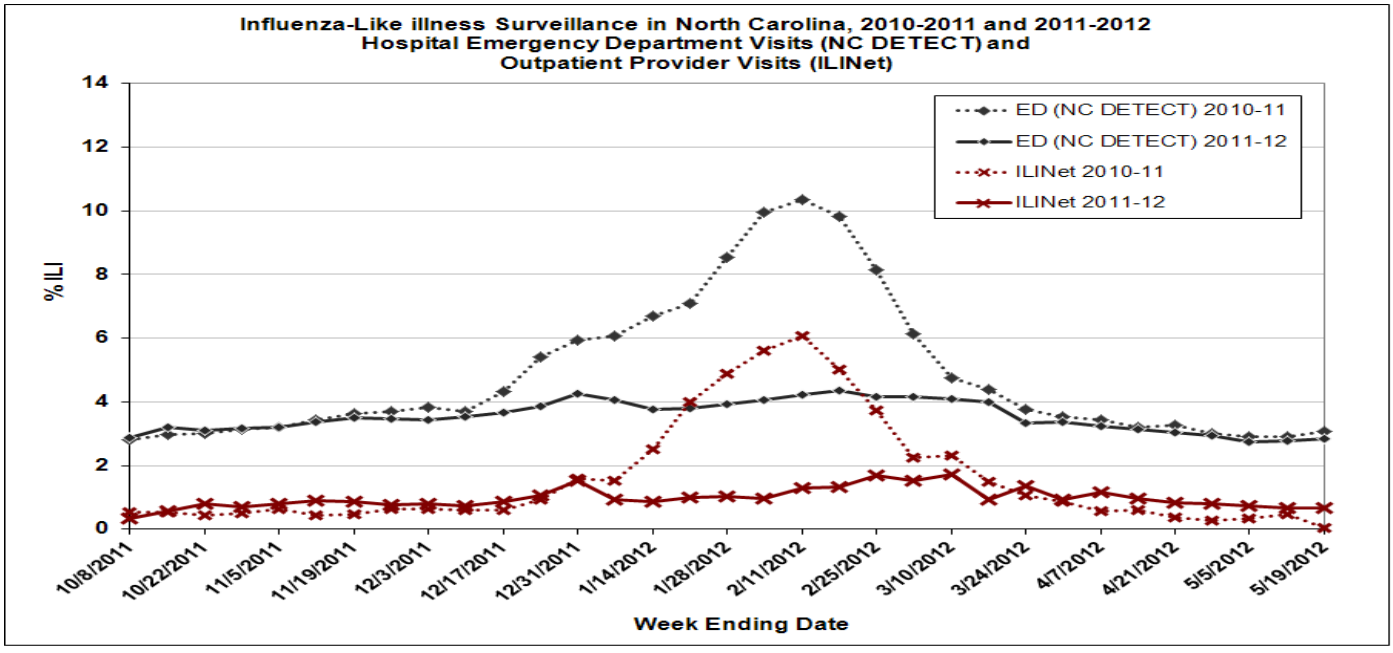
North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT) ILI Surveillance

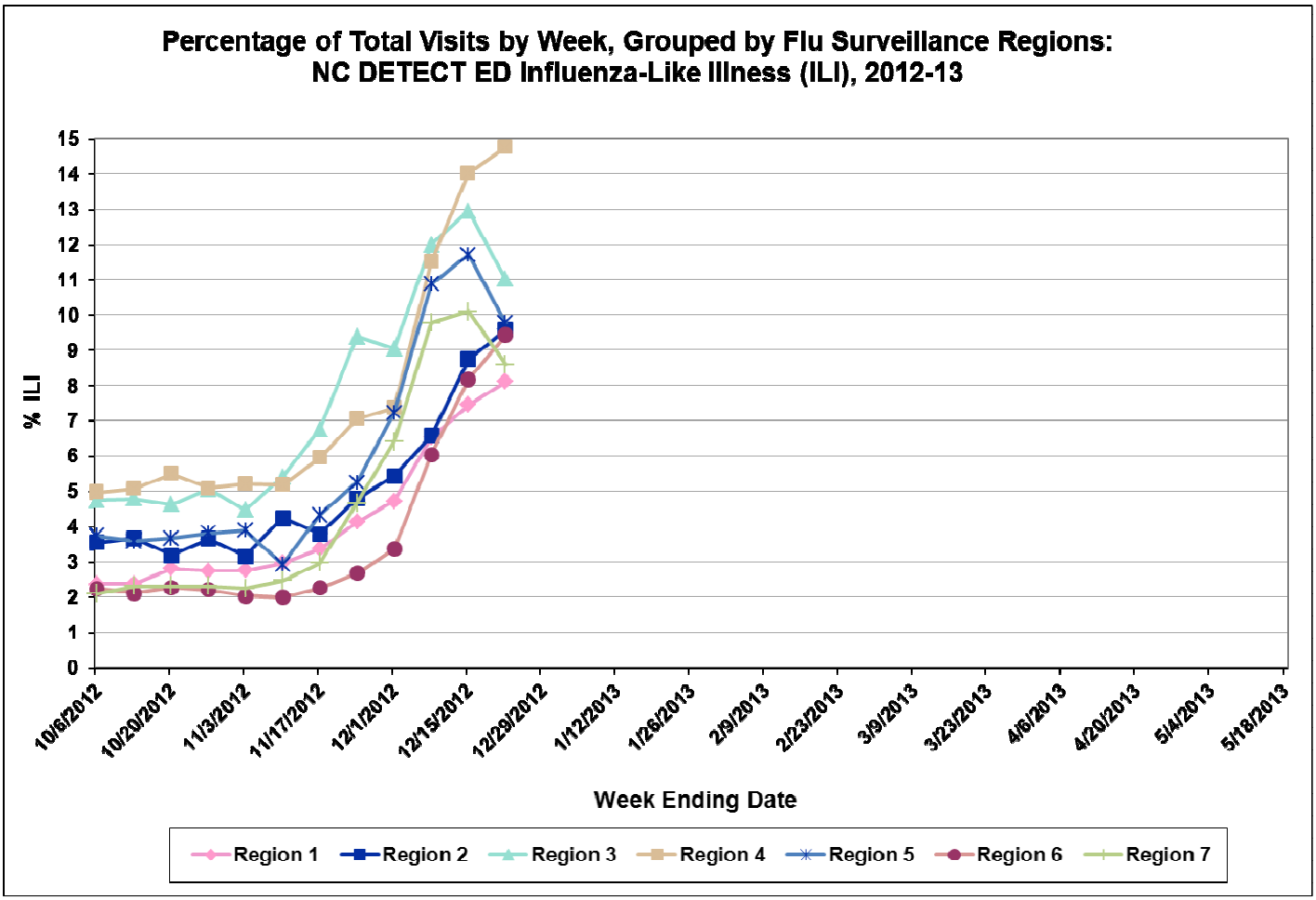
Near real-time syndromic surveillance for ILI is conducted through the North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT). This system uses a variety of data sources including emergency departments (EDs). NC DETECT is currently receiving data daily from 119 of the 124 24/7 EDs in North Carolina. For the purposes of surveillance, ED visits are grouped into syndromes based on analyses of the chief complaint, initial ED temperature (when available), and history of present illness (when available). The NC DETECT ILI syndrome case definition includes any case with the term "flu" or "influenza", or at least one fever term and one influenza-related symptom. Because these data are submitted and updated twice a day, they are particularly useful for real-time monitoring and for early detection of outbreaks.

The proportion of ED visits meeting the ILI syndrome definition is monitored throughout the year and compared to data obtained from Influenza-like Illness Surveillance Network (ILINet). In past years, data from the two systems have shown similar trends (below). The higher proportion of ILI seen in NC DETECT compared to ILINet reflects differences in the case definitions and patient populations rather than a difference in the sensitivity of these surveillance systems.

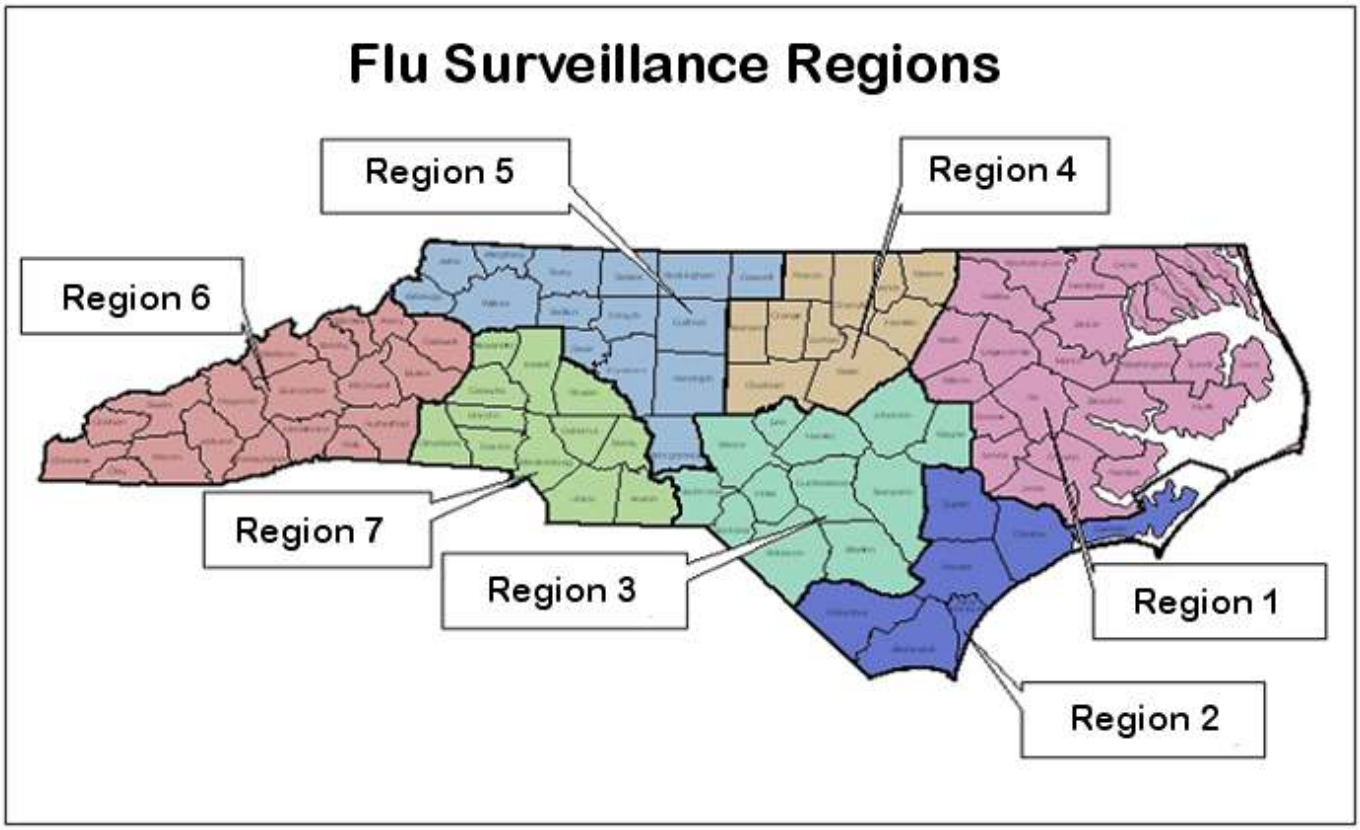


2010-2011 and 2011-2012 Influenza Seasons: Shown For Comparison



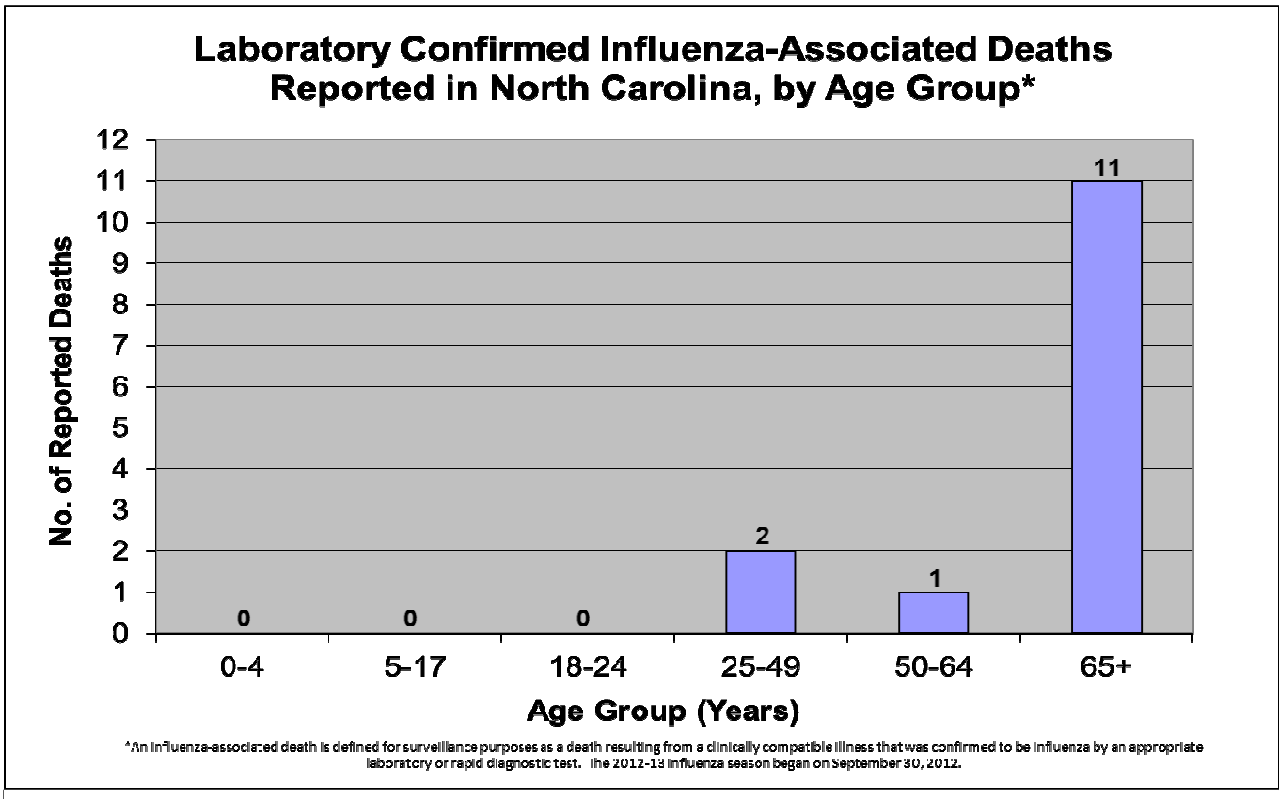


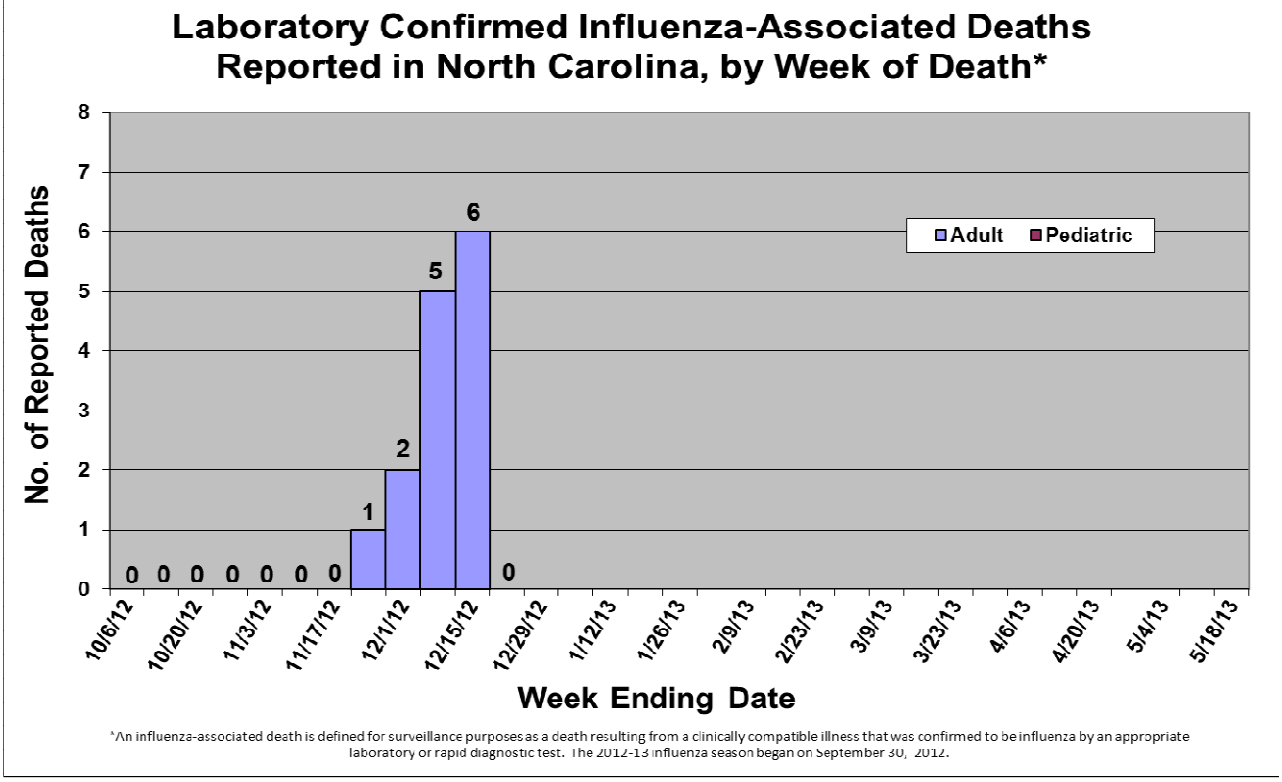
NOTE: This graph begins with data starting week ending October 6, 2012 – the first week of the 2012–2013 influenza season.



NC Influenza-Associated Deaths*	
Influenza-Associated Deaths 12/16/12–12/22/12	**Total Influenza-Associated Deaths Since Week 40 (ending 10/06/12)**
0	**14**

***Influenza-associated Deaths** - This number is based on reports submitted by providers to the North Carolina Division of Public Health. An influenza-associated death is defined for surveillance purposes as a death (adult or pediatric) resulting from a clinically compatible illness that was confirmed to be influenza by an appropriate laboratory or rapid diagnostic test with no period of complete recovery between the illness and death.





PARTICIPANTS IN NORTH CAROLINA'S INFLUENZA SENTINEL SURVEILLANCE PROGRAM THAT HAVE REPORTED DATA TO CDC

LOCAL HEALTH DEPARTMENT/DISTRICT OFFICES [28]:

Alamance County Health Department (Burlington)
Cabarrus Health Alliance (Kannapolis)
Caldwell County Health Department (Lenoir)
Chatham County Health Department (Siler City)
Duplin County Health Department (Kenansville)
Franklin County Health Department (Louisburg)
Greene County Health Department (Snow Hill)
Henderson County Health Department (Hendersonville)
Johnston County Health Department (Smithfield)
Jones County Health Department (Trenton)
Lee Primary Care (Sanford)
Martin County Office [Martin-Tyrrell-Washington County Health District] (Williamston)
Montgomery County Health Department (Troy)
Northampton County Health Department (Jackson)
Pender County Health Department (Burgaw)
Pitt County Public Health Center (Greenville)
Richmond County Health Department (Rockingham)
Rockingham County Health Department (Wentworth)
Stanly County Health Department (Albemarle)
Stokes Family Health Center (Danbury)
Surry County Health and Nutrition Center (Dobson)
Tyrrell County Office [Martin-Tyrrell-Washington County Health District] (Columbia)
Union County Health Department (Monroe)
Wake County Health Department, Children's Clinic (Raleigh)
Washington County [Martin-Tyrell-Washington County Health District] (Plymouth)
Wilkes County Health Department (Wilkesboro)
Wilson County Health Department (Wilson)
Yancey County Office [Toe River Health District] (Burnsville)

COLLEGES AND UNIVERSITIES STUDENT HEALTH PROGRAMS [17]:

Appalachian State University Student Health Services (Boone; Watauga Co.)
Davidson College Student Health Center (Davidson; Mecklenburg Co.)
Duke University Student Health Services (Durham; Durham Co.)
ECU Student Health Services (Greenville; Pitt Co.)
Elizabeth City State University Student Health Services (Elizabeth City; Pasquotank Co.)
Elon University R. N. Ellington Health and Counseling Center (Elon; Alamance Co.)
Fayetteville State University (Fayetteville; Cumberland Co.)
Mount Olive College Milton M. Lownes Jr., MD Student Health Services (Mount Olive; Wayne Co.)
NC Agricultural &Technical State University Student Health Services (Greensboro; Guilford Co.)
NC State University Student Health Services (Raleigh; Wake Co.)
UNC-Asheville Student Health Services (Asheville; Buncombe Co.)
UNC-Chapel Hill Student Health Services (Chapel Hill; Orange Co.)
UNC-Charlotte Student Health Services (Charlotte, Mecklenburg Co.)
UNC-Greensboro Student Health Services (Greensboro; Guilford Co.)
UNC-Pembroke Student Health Services (Pembroke; Robeson Co.)
Wake Forest University Student Health Services (Winston-Salem; Forsyth Co.)
Winston-Salem State University (Winston-Salem; Forsyth Co.)

PRIVATE PRACTITIONERS [28]:

Bakersville Community Medical Center (Bakersville; Mitchell Co.)
Blue Cross and Blue Shield of N.C. (Durham; Durham Co.)
Blue Ridge Community Health Services (Hendersonville; Henderson Co.)
Butner-Creedmoor Family Medicine (Creedmore; Granville Co.)
Cabarrus Urgent Care (Concord; Cabarrus Co.)
Carolina East Medical Associates (Washington; Beaufort Co.)
Colerain Primary Care (Colerain; Bertie Co.)
ECU Brody School of Medicine – Department of Pediatrics (Greenville; Pitt Co.)
Family Care Center (Taylorsville; Alexander Co.)
Gaston Family Health Services (Gastonia; Gaston Co.)
Haywood Pediatric and Adolescent Medicine Group, PA (Clyde; Haywood Co.)
Hot Springs Health Program (Marshall; Madison Co.)
Matthews Children's Clinic (Matthews; Mecklenburg Co.)
MEDAC Health Services at Shipyard Blvd. (Wilmington; New Hanover Co.)
MEDAC Health Services at Porter's Neck (Wilmington; New Hanover Co.)
MEDAC Health Services at Military Cutoff (Wilmington; New Hanover Co.)
MinuteClinic Mooresville (Mooresville; Iredell Co.)
MinuteClinic Waxhaw (Waxhaw; Union Co.)
Murfreesboro Primary Care (Murfreesboro; Hertford Co.)
Oxford Family Physicians (Oxford; Granville Co.)
PrimeCare (Winston-Salem; Forsyth Co.)
PrimeCare of Kernersville (Kernersville; Forsyth Co.)
PrimeCare of Northpoint (Winston-Salem; Forsyth Co.)
Roanoke Chowan Community Health Center (Ahoskie; Hertford Co.)
SAS Institute Health Care Center (Cary; Wake Co.)
Sisters of Mercy Urgent Care, South (Asheville; Buncombe Co.)
Sisters of Mercy Urgent Care, West (Asheville; Buncombe Co.)
Stanly Family Care Clinic (Albemarle; Stanly Co.)

HOSPITALS [4]:

Blue Ridge Regional Hospital (Spruce Pine; Mitchell Co.)
Cape Fear Valley Health System Primary Care Practices (Fayetteville; Cumberland Co.)
Durham VAMC (Durham; Durham Co.)
Seymour Johnson Air Force Base Medical Group (Goldsboro; Wayne Co.)

OTHER [1]:

PotashCorp (Aurora; Beaufort Co.)

TOTAL SENTINELS ENROLLED – 78

Counties covered (50): Alamance (2), Alexander, Beaufort (2), Bertie, Buncombe (3), Cabarrus (2), Caldwell, Chatham, Cumberland (2), Duplin (2), Durham (3), Forsyth (4), Franklin, Gaston, Granville (2), Greene, Guilford (2), Haywood, Henderson (2), Hertford (2), Iredell, Johnston, Jones, Lee, Madison, Martin, Mecklenburg (3), Mitchell (2), Montgomery, New Hanover (3), Northampton, Orange, Pasquotank, Pender, Pitt (3), Richmond, Robeson, Rockingham, Stanly (2), Stokes, Surry, Tyrrell, Union (2), Wake (3), Washington, Watauga, Wayne (2), Wilkes, Wilson, Yancey